

Logistics 2022

You Can't Get There from Here
(unless you do things differently)

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International Conference for **Chemicals**, presented
by SAP and TAC Events

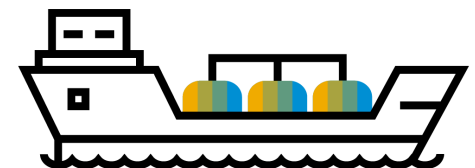
27 – 29 September 2022, Madrid, Spain | In-Person Event



Transportation issues in the chemical industry: North American perspective

American Chemistry Council survey covering Q4 2020 – Q1 2022

- 55% of companies reported that port and ocean shipping problems are worse this year compared to the third quarter of last year.
- Almost 40% of companies reported that rail problems are worse this year compared to the third quarter of last year.
- More than 50% of companies reported that trucking problems are worse this year compared to the third quarter of last year.
- 75% of companies have switched some cargo from rail to truck because of rate and service issues.



Transportation resource constraints

Captive plants/warehouses

Port/border congestion

Hazmat compliance

Cost

Transportation issues in the chemical industry: German perspective

VCI Transportation Infrastructure Position Paper – July 2022

- Decaying transportation infrastructure is leading to “massive locational disadvantage for Germany”
- “Roads are dilapidated, bridges are closed, canal locks are prone to failure, and railway lines are overloaded”
- “Capacity bottlenecks in the rail network significantly hinder rail freight traffic”
- Complicated procedures and lack of staff inhibit transportation projects

Labor regulations/issues

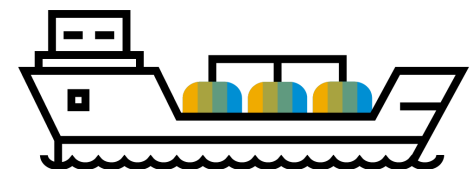
Transportation resource constraints

Port/border congestion

Cost

Emissions regulations

Hazmat compliance



Truck issues



Capacity constraints

- Driver shortages
- EU Mobility/Labor regulations
- Port strikes
- Long dwell times
- Border delays/closures
- Increased demand due to rail/barge issues



Cost

- Fuel cost
- Backhaul cost



Compliance

- Emissions regulations
- Customs filings
- Border inspections



What you can do



Increase size of carrier network

- Rapid onboarding
- Support for various communication methods
- Support for spot booking



Invest in automation

- Carrier communication (tendering, billing, tracking)
- Transportation planning
- Route selection based on distance/cost
- Scheduling/rescheduling loading & unloading
- Customs filings, regulatory checking
- Alert/risk monitoring



Cost control

- Track market pricing (vs contract prices)
- Low cost carrier selection
- Load consolidation
- Monitor accessorial charges



Rail issues



Deteriorating freight rail service



Railcars out of service



Railcars in the wrong place



Under-estimated fleet size



What you can do



Transportation planning

- Mode optimization
- Carrier selection software to pick carrier with best contract, rate, or service level



Equipment maintenance

- Predictive/preventive railcar maintenance
- Forecasting MRO (maintenance, repair, operations) part demand
- Optimized maintenance execution



Equipment tracking and repositioning

- Railcar track/trace
- Railcar repositioning based on short-term demand forecast



Fleet sizing

- Forecasting railcar demand as part of S&OP process and using distribution plan for fleet sizing



Ocean/container issues



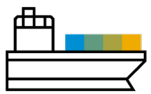
Capacity constraints

- Retail goods favored over bulk shippers
- Port closures/strikes/staffing
- Mispositioned containers
- Slow sailing



Compliance

- Increase in documentation required to cross borders
- Emissions

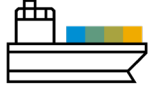


Complicated advance planning

- Advance booking issues
- Volatile demand
- Truck/rail constraints



What you can do



Expand capacity

- Charter your own ships (Walmart, IKEA, Target)
- Expand available carriers/routes



Transportation planning

- Update transit times (ML to predict transit times)
- Optimize route/carrier selection, especially of leg going to port
- Forecast transportation demand as part of S&OP process
- Make advanced ocean booking based on forecast
- Reposition containers based on forecasted demand
- Risk monitoring of ports/routes








Automation

- Automate creation of customs/tax documents and exchange of documents with business partners
- Automate booking process



Cross-mode visibility issues

-  No single place to go to see shipment status for all modes
-  Carriers have different reporting capabilities & technology
-  Some data is real time, some not
-  Many IT platforms involved
-  Integration challenges



What can you do

Collaborate (not create from scratch)

- Business network connectivity
- Partner participation
- Built in interfaces
- Open APIs

Manage by exception

- Alerting
- Risk management

Integrate with back office processes

- Order fulfillment
- Procurement



SAP solutions and partners that can help

Transportation Management

Manage end-to-end transportation operations and improve service levels through automated transportation planning and execution

Business Network for Logistics

Provide real-time visibility and outsource freight, leveraging spot market capacity and digital freight forwarders

International Trade and Global Trade Services

Automate customs compliance and Intrastat declarations

Yard logistics

Streamline planning, execution and settlement of yard movements

Transportation Resource Planning

Reposition transportation resources based on projected demand

Order promising

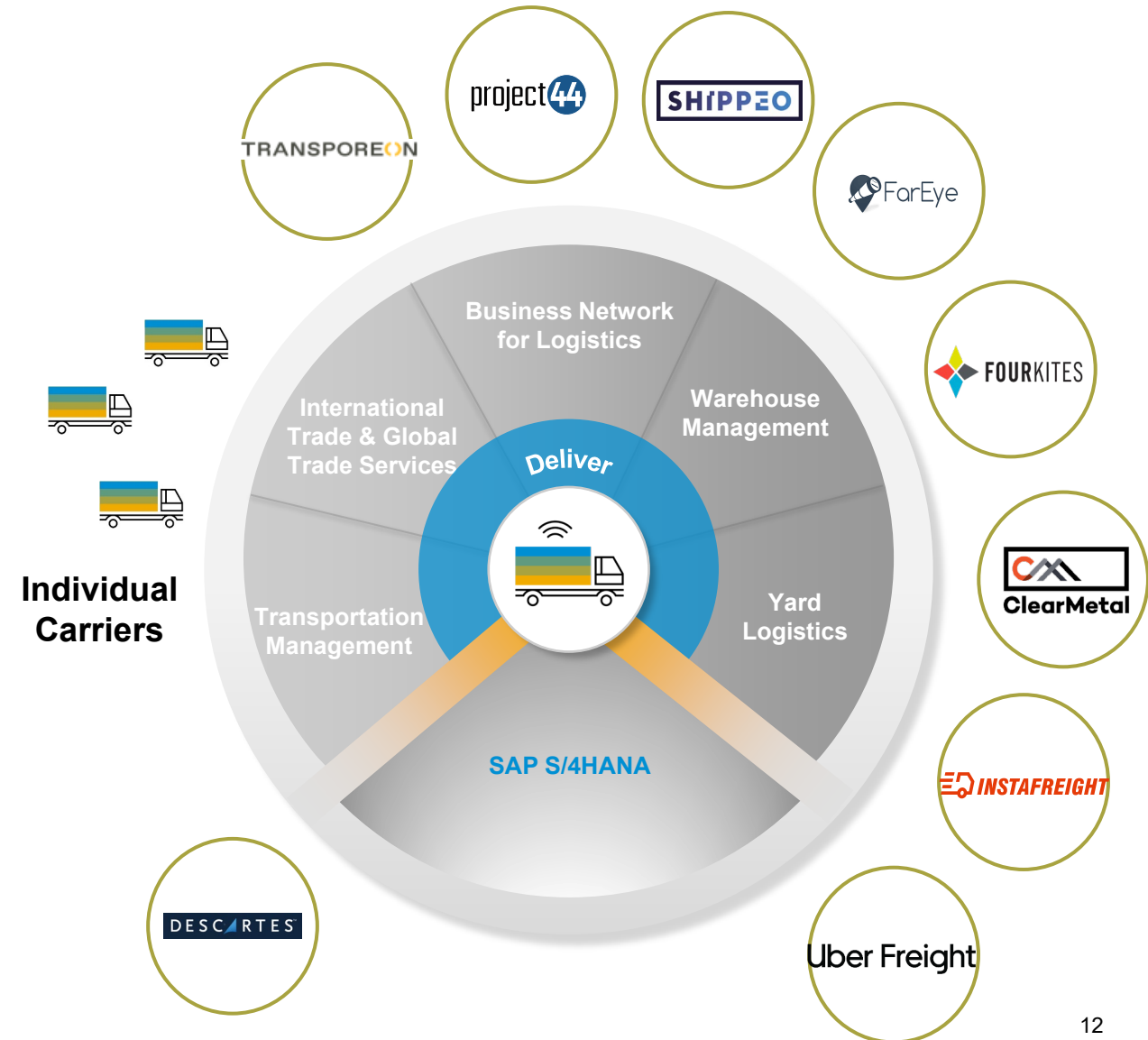
Increase reliability of order fulfillment considering relevant inventory stock in real-time considering logistics constraints

Integrated Business Planning

Automate response and supply planning including generation of distribution plan

Predictive Maintenance & Service

Increase availability of owned/leased equipment



Thank you.

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